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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,588	05/10/2005	Kwang-Il Kim	11281-069-999	4447
20583	7590	10/30/2006	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/534,588

Applicant(s)

KIM ET AL.

Examiner

Ryan Lepisto

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/9/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3, 5, 7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gravely et al (US 5,642,452)** (Gravely) in view of **Keller (US 6,167,180)**.

Gravely teaches a dielectric optical cable (Fig. 2B) comprising a central tensile member (12), optical fiber buffer loose tubes (14) enclosing optical fibers (16) in a water-blocking jelly (column 3 lines 17-18), a water-blocking tape (26) surrounding the buffer tubes (14), an inner sheath (18) surrounding the water-blocking tape (26), an outer tensile member (32B) surrounding the inner sheath (18) having a plurality of water-blocking Aramid yarns (32B) extending in the longitudinal direction in parallel without twisting (column 6 lines 1-2) and an outer sheath (36) surrounding the tensile member (32B) (column 3 lines 12-63, column 5 lines 54-67).

Gravely does not teach expressly that the yarn is connected by an adhesive epoxy resin.

Keller teaches a dielectric optical cable (Figs. 1, 3) comprising a tensile member layer (18) made of adhesive yarns (20, 22, 24) and non-adhesive yarns (30, 32, 34, 36, 38, 40) for adhesively (using an epoxy resin like hot-melt or low melt temperature

plastic) (column 3 lines 44-47) connecting the buffer tubes to an outer protective jacket (column 3 lines 19-22).

Gravely and Keller are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the tensile layer taught by Keller in the cable taught by Gravely since Keller teaches that any particular yarn can be used in his teachings (column 3 lines 57-68) and since Gravely teaches using a outer yarn layer that needs to be adhered to an outer jacket also.

The motivation for doing so would have been to ease manufacturing complexities, meet industry temperature requirements, increase serviceability by allowing access to the buffer tubes, increase design flexibility by being able to use a wide range of materials, which all increase the manufacturing processing window or reduces the precision of the process tension control (Keller, column 2 lines 30-38).

With regard to claim 2: The limitation given patentable weight in this claim is the tensile member having an adhesive resin on/in it since the step of soaking the member is a process limitation in a product claim. Only the structure implied is considered in the case, which is taught by the combination of Gravely and Keller as previously discussed.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted)

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979).

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gravely in view of Keller as applied to claims 1-5, 7 and 9 above, and further in view of **Birkeland et al (US 6,714,709 B1)** (Birkeland).

Gravely in view of Keller teaches the optical cable previously discussed

Gravely in view of Keller does not teach expressly at least one polyethylene (PE) filler.

Birkeland teaches an optical fiber cable (Fig. 1) comprising PE filler elements (5) disposed between an inner strength member and an inner sheath and adjacent to optical buffer tubes for positing the tubes (column 3 line 64 – column 4 line 8).

Gravely in view of Keller and Birkeland are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use fillers as taught by Birkeland in the cable taught by Gravely in view of Keller since Gravely in view of Keller has gaps between the buffer tubes and inner sheath that creates the need for spacers to position the tubes.

The motivation for doing so would have been ensure a round cross section of the cable with a well-defined diameter and to improve stability (Birkeland, column 2 lines 33-43).

**Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gravely in view of Keller as applied to claims 1-5, 7 and 9 above, and further in view of **Vyas et al (US 5,247,599)** (Vyas).

Gravely in view of Keller teaches the optical cable previously discussed

Gravely in view of Keller does not teach expressly a water-blocking jelly in the gaps between the buffer tubes and water blocking tape.

Vyas teaches an optical fiber cable (Fig. 1) comprising buffer tubes (14) surrounding a central strength member (12) wherein a water-blocking jelly material (22) fills the gaps between the buffer tubes (14) (column 2 lines 57-61).

Gravely in view of Keller and Vyas are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use water-blocking jelly between the buffer tubes in Gravely in view of

Art Unit: 2883

Keller as taught by Vyas since Gravely teaches this a well known manufacturing method in the art (column 1 lines 44-49).

The motivation for doing so would have been to prevent damage to the fibers by blocking liquids from penetrating the fibers (Gravely, column 1 lines 44-49) with a tradeoff of the negative trait of extra weight for the cable (Gravely).

### ***Response to Arguments***

Applicant's arguments filed 10/9/06 have been fully considered but they are not persuasive.

In response to the argument that the Gravely and Keller reference do not teach an adhesive resin for connection the tensile wires adjacent to each other: In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to the argument that Keller teaches away from an adhesive resin for connection the tensile wires adjacent to each other: Keller teaches that an adhesive resin is used to adhere adjacent layers. Keller also teaches an embodiment (Fig. 3) with adjacent adhesive yarns (224, 228 and 220, 229). This teaching, in combination with the Gravely reference, then teaches all the limitations of claim 1. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423

Art Unit: 2883

(CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.).

Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-Th 7:30 AM - 5:30 PM.

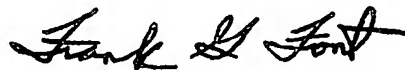
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ryan Lepisto  
Art Unit 2883  
Date: 10/25/06



Frank Font  
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